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**(54) Title: ENHANCED OPTICAL FAST FREQUENCY HOPPING-CDMA BY MEANS OF OVER SPREADING AND INTER-
LEAVING**
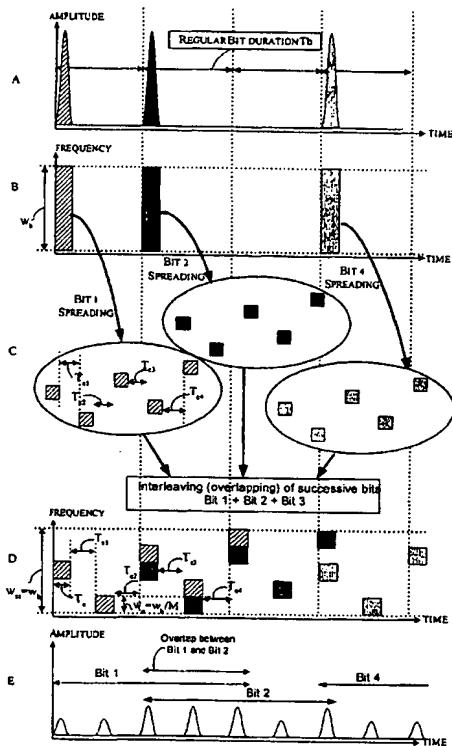
(57) Abstract: A method and an optical communication system for a
practical implementation of fast frequency hopping-code division mul-
tiple access in optical networks allowing higher transmission bandwidth
is provided. The method comprises the step a) of providing a fast fre-
quency hopping CDMA coded optical signal comprising a plurality of
user's bits of a plurality of users. The method also comprises the step
b) of over spreading in a time axis each of the user's bits of the fast
frequency hopping CDMA coded optical signal. The method also com-
prises the step c) of interleaving each of the user's bits of a given user
with a successive user's bit of the given user. After steps a), b) and c),
the method comprises the step d) of transmitting the fast frequency hop-
ping CDMA coded optical signal over the optical network. The method
also comprises, after step d), the step e) of over de-spreading in the time
axis each of the user's bits of the fast frequency hopping CDMA coded
optical signal. The method also comprises the step f) of deinterleaving
each of the user's bits of the fast frequency hopping CDMA coded op-
tical signal from the successive user's bit.

Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
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